

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date  
4 August 2005 (04.08.2005)

PCT

(10) International Publication Number  
**WO 2005/071221 A1**

(51) International Patent Classification<sup>7</sup>: **E21B 34/04**, 33/035, 33/043, 34/10

(21) International Application Number: PCT/GB2005/000209

(22) International Filing Date: 21 January 2005 (21.01.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data: 0401440.3 23 January 2004 (23.01.2004) GB

(71) Applicant (for all designated States except US): **ENOVATE SYSTEMS LIMITED** [GB/GB]; Newton Road, Kirkhill Industrial Estate, Dyce, Aberdeen AB21 0GE (GB).

(72) Inventors; and

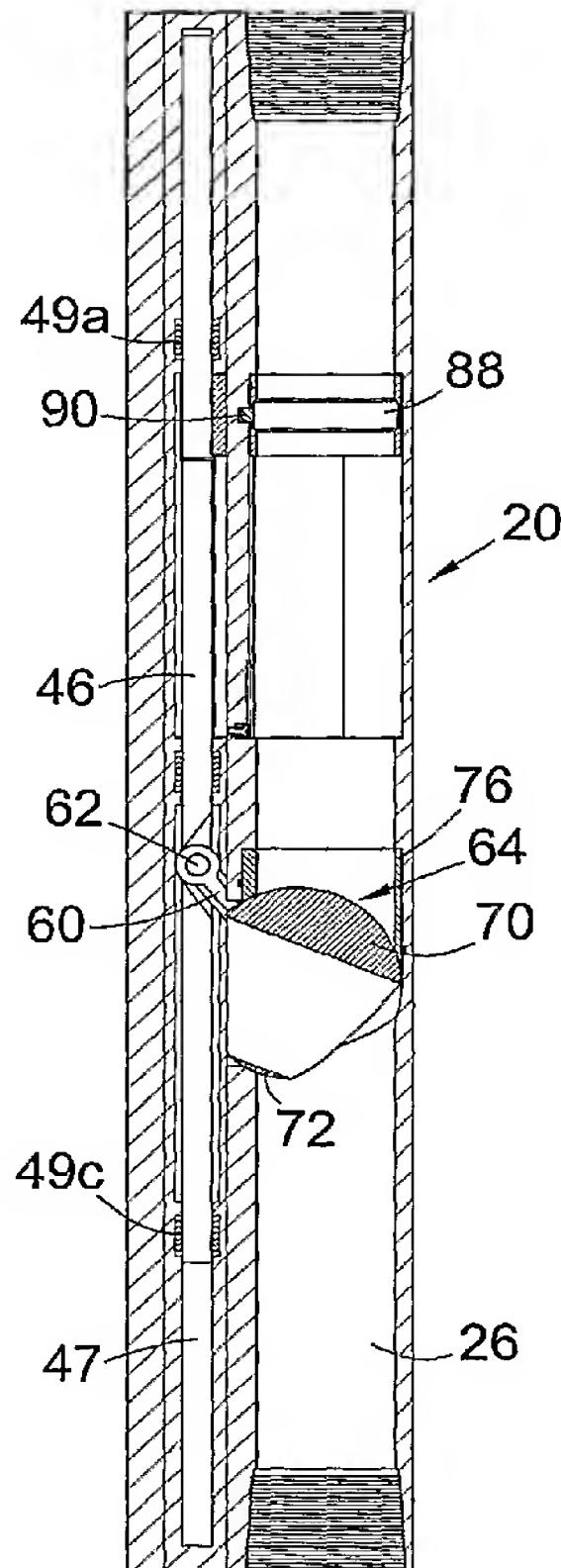
(75) Inventors/Applicants (for US only): **COWIE, Gavin, David** [GB/GB]; Glenlea, 9 Arbeadie Terrace, Banchory, Kincardineshire AB31 5TN (GB). **EDWARDS, Jeffrey, Charles** [GB/GB]; The Old Rectory, Flixton Road, Lound, Suffolk NR321 5PN (GB).

(74) Agents: **SZCZUKA, Jan, Tymoteusz** et al.; Marks & Clerk, 19 Royal Exchange Square, Glasgow G1 3AE (GB).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

[Continued on next page]

(54) Title: COMPLETION SUSPENSION VALVE SYSTEM



(57) Abstract: A completion suspension valve system is described which allows a well to be suspended and desuspended remotely without a dual bore riser to the surface. This is achieved by incorporating a remotely actuatable valve into the production bore of a tubing hanger. The valve is hydraulically operable and may be controlled via the tubing hanger running tool or via the xmas tree. The valve can be closed and tested after the tubing hanger has been installed, thereby isolating the well. The dual bore riser and running tool are retrievable and the MODU type vessel is then free to continue drilling and completion operations elsewhere. The xmas tree can therefore be deployed from a workclass supply boat instead of a MODU type vessel.

WO 2005/071221 A1



**(84) Designated States** (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

**Published:**

- *with international search report*